

Kline's Island Sewer System (KISS) Act 537 Plan: System Modeling Tasks

Lehigh County Authority – Board of Directors – February 22, 2021

IMPLEMENTATION PLAN

The technical aspects of the Interim Plan are complex but definable. The inter-municipal aspects (and potential for regionalization) are even more complex and therefore difficult to define and quantify from a scheduling perspective. These discussions will begin in 2021 and will continue throughout the Long-term Act 537 planning process.

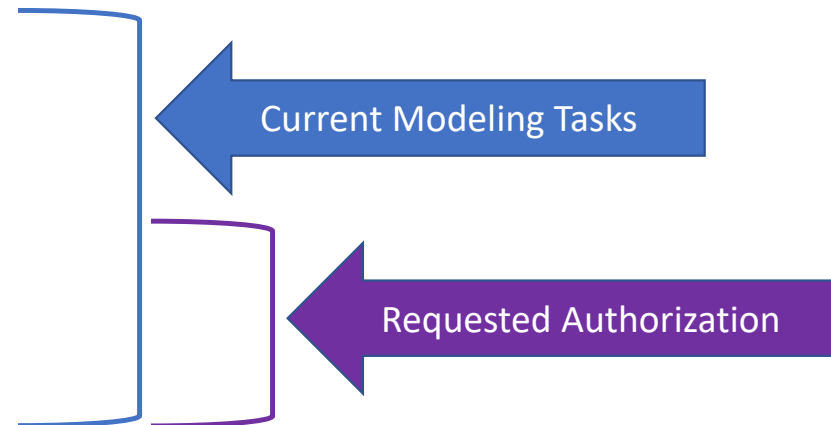
The table that follows is a best estimate of the time needed to complete this Interim Plan. The potential exists for changes during implementation which will be addressed and the schedule modified accordingly.

| Work Categories & Description | Start | Finish |
|---|---------------------|--|
| Immediate: <ul style="list-style-type: none"> ■ Sewage Billing Meter (SBM) Upgrades & data validation / capture method ■ Defined scope and meter placement for Flow Characterization Study ■ Agreement on Cost-Sharing for Planning work ■ Municipal Flow Projections → 2050 ■ Part 2 Permit Resubmission for the KIWWTP hydraulic rerate | As soon as possible | December 2020 <i>* Timing required to design flow metering program</i> |
| Preliminary: <ul style="list-style-type: none"> ■ Preliminary Treatment Alternatives Evaluation –Resolve concepts with preliminary regulatory and engineering evaluation so signatories can review impacts to inter-municipal agreements, cost-sharing, etc. ■ Inter-municipal Agreement Review ■ Evaluation of Regional Approaches ■ Conceptual Agreement on Cost-Sharing | As soon as possible | September 2021 <i>* Timing required to have inputs available for flow modeling work</i> |
| Flow Monitoring & Model Calibration: <ul style="list-style-type: none"> ■ Flow Monitoring ■ Rainfall Monitoring ■ RDII Characterization ■ KISS Model Calibration ■ Preliminary modeling of alternatives ■ Update treatment alternatives analysis | January 2021 | June 2022 |

| Work Categories & Description | Start | Finish |
|--|----------------|----------------|
| Alternatives Analysis: <ul style="list-style-type: none"> ■ KIWWTP vs. Pretreatment Plant ■ Storage vs. conveyance/pumping alternatives ■ Peak flow capacity alternatives ■ I&I removal impacts on alternatives ■ Preliminary cost estimates | June 2022 | June 2023 |
| Selection of Preferred Alternative: <ul style="list-style-type: none"> ■ Detailed cost estimates ■ Address impact to inter-municipal agreements ■ Develop implementation schedule ■ Stakeholder input | June 2023 | June 2024 |
| Act 537 Plan Development (Write the plan) | June 2024 | September 2024 |
| Public Notice & Municipal Adoptions | September 2024 | February 2025 |
| Final Submission | | March 2025 |

Kline's Island Sewer System (KISS) – Act 537 Plan Tasks Flow Monitoring & Model Calibration (January 2021 – June 2022):

- **Flow Monitoring**
- **Rainfall Monitoring**
- **RDII Characterization**
- **KISS Model Calibration**
- *Preliminary modeling of alternatives*
- *Update treatment alternatives analysis*



KISS Act 537 Plan Tasks & Status

(Projects funded by City of Allentown, shared by all KISS municipalities)

| <u>Act 537 Sub-Project / Task</u> | <u>Authorized</u> | <u>Status</u> |
|--|--------------------|--------------------|
| Interim Act 537 Plan Preparation | \$91,385 | Complete |
| KIWWTP Max Month Study/Part 2 Permit | \$50,000 | Complete |
| KIWWTP Peak Capacity Study | \$40,000 | Complete |
| Sewer Billing Meter Inspection and Upgrade Evaluations | \$20,000 | Paused |
| 2020 Signatory Flow Metering Plan Development | \$34,000 | Complete |
| 2020 Pre-Modeling Efforts | \$20,000 | Complete |
| Staff/Contingency | \$34,615 | Complete |
| 2019-2020 Total | \$290,000 | |
| 2021 Temporary Metering | \$476,550 | Approved / Ongoing |
| 2021 Metering Quality Assurance/Quality Control | \$250,000 | Approved / Ongoing |
| Staff/Contingency | \$20,000 | Approved / Ongoing |
| 1/25/2021 Authorization | \$746,550 | |
| 2021 KISS Model Development | \$898,000 | Requested |
| 2022 City RDII Analysis (<i>*cost not shared*</i>) | \$60,000 | Requested |
| Staff/Contingency | \$35,000 | Requested |
| 2/22/2021 Authorization (Approval Requested) | \$993,000 | |
| Total | \$2,029,550 | |

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- *Flow Monitoring*
- *Rainfall Monitoring*
- *RDII Characterization*
- *KISS Model Calibration*
- **Preliminary modeling of alternatives**
- **Update treatment alternatives analysis**



2022 Tasks: Cost TBD

Future Act 537 Work

| Work Categories & Description | Start | Finish |
|---|----------------|----------------|
| <p>Alternatives Analysis:</p> <ul style="list-style-type: none"> ■ KIWWTP vs. Pretreatment Plant ■ Storage vs. conveyance/pumping alternatives ■ Peak flow capacity alternatives ■ I&I removal impacts on alternatives ■ Preliminary cost estimates | June 2022 | June 2023 |
| <p>Selection of Preferred Alternative:</p> <ul style="list-style-type: none"> ■ Detailed cost estimates ■ Address impact to inter-municipal agreements ■ Develop implementation schedule ■ Stakeholder input | June 2023 | June 2024 |
| Act 537 Plan Development (Write the plan) | June 2024 | September 2024 |
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Discussion / Questions?

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